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Conference Abstract

Standardizing Biologging Data for LifeWatch: Camera Traps, Acoustic Telemetry and GPS Tracking

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Abstract

The Research Institute for Nature and Forest (INBO) is co-managing three biologging networks as part of a terrestrial and freshwater observatory for LifeWatch Belgium. The networks are a GPS tracking network for large birds, an acoustic receiver network for fish, and a camera trap network for mammals. As part of our mission at the Open science lab for biodiversity, we are publishing the machine observations these networks generate as standardized, open data. One of the challenges however, is finding the appropriate standards and platforms to do so.

In this talk, we will present the three networks, the type of biologging data they collect and how we (plan to) standardize these to specific community standards and to Darwin Core (Wieczorek et al. 2012). Data from the bird tracking network have been published in 2014 as one of the first biologging datasets on the Global Biodiversity Information Facility (GBIF) (Stienen et al. 2014). We are now planning to upload the data to Movebank instead and contribute to a generic mapping between the Movebank format and Darwin Core. Data from the acoustic receiver network are being mapped using the Darwin Core guidelines proposed by the Machine Observations Interest Group of Biodiversity Information Standards (TDWG). Images generated by the camera trap network are managed in the annotation system Agouti, for which we plan to export the data in the Camera Trap

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Metadata Language (Forrester et al. 2016). We also aim to write a software package to deposit camera trap images and data on Zenodo and map the observation data to Darwin Core.

We hope that our work will contribute to discussions and guidelines on how to best map biologging data to Darwin Core, which is one of the aims of the Machine Observations Interest Group of Biodiversity Information Standards (TDWG).

Keywords

LifeWatch, sensors, biologging, camera traps, acoustic telemetry, GPS tracking, Darwin Core

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References

- Forrester T, O'Brien T, Fegraus E, Jansen P, Palmer J, Kays R, Ahumada J, Stern B, McShea W (2016) An Open Standard for Camera Trap Data. Biodiversity Data Journal 4 https://doi.org/10.3897/bdj.4.e10197
- Stienen EM, Desmet P, Aelterman B, Courtens W, Feys S, Vanermen N, Verstraete H, de walle MV, Deneudt K, Hernandez F, Houthoofdt R, Vanhoorne B, Bouten W, Buijs R, Kavelaars M, Müller W, Herman D, Matheve H, Sotillo A, Lens L (2014) Bird tracking - GPS tracking of Lesser Black-backed Gulls and Herring Gulls breeding at the southern North Sea coast. Research Institute for Nature and Forest (INBO) https://doi.org/10.15468/02omly
- Wieczorek J, Bloom D, Guralnick R, Blum S, Döring M, Giovanni R, Robertson T, Vieglais D (2012) Darwin Core: An Evolving Community-Developed Biodiversity Data Standard. PLoS ONE 7 (1). https://doi.org/10.1371/journal.pone.0029715